EasyChair Preprint

№ 8911

Parental Rights on Vaccination

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October 3, 2022

Research Note:

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Abstract

This paper follows evidence from different sides of the dilemma that exists between the debate of vaccinations in the United States. It discusses reasons that center around the idea of parental rights over vaccination. It explores numerous factors that ultimately contribute to the shifting of opinions on this controversy. We take into consideration the experiences of individuals while also considering the population as a whole. We bring in evidence of historical events that contribute to the discussion of vaccine hesitancy. The paper explores the idea of misinformation and its ability to affect the general public through media related outlets. We consider the contribution of physicians to educating their patients on the issue of childhood vaccination. The paper further looks at maintaining human rights to religious practice while also thinking about maximum protection from contagions in our communities.

Vaccination can scream controversy in the ears of the general public. Some parents strive to support mandatory government regulated immunization in the United States while other parents hope to practice their right of choice on the matter. In this essay we look to inform the reader on both sides of this spectrum. We look at older and recent events to help explain the source of this dilemma, while also explaining certain ethical properties that have been associated with the history of vaccination. We describe current public health policies and law as well as how various media platforms have contributed to altering the views of many in recent years. We consider how various factors contribute to vaccine-hesitancy, such as religious and cultural views, misinformation, education, and examining the current and historical approach to vaccination by the medical institutions of this country.

Although vaccination has been going on for ages, getting into the reason why people seem to not trust vaccines can be more than a simple matter of a risk and benefit, but more about the reasons for why we question the medical institution altogether. We can look back at the beginning of the smallpox vaccine hitting American soil and deduce why it seems that parents may or may not want to vaccinate their children. The journal article titled *Mistrust in Medicine: The Rise and Fall of America's First Vaccine Institution* by Tess Lanzarotta and Marco A. Ramos, goes over America's first effort in widespread vaccination. At the start of nationwide vaccination in the United States, an act passed that promoted a well known physician by the name of James Smith as the single vaccinating agent in 1813. It was 'An Act to Encourage Vaccination' which entitled James Smith responsible for the distribution of the smallpox vaccine. During this time, many physicians promoted vaccination as a talent that should only be done by the most elite of doctors. Vaccination was a new technology. This fact led to the criticism of James Smith by the medical community. James Smith believed that, "any intelligent citizen," could perform a vaccination (Lanzarotta and Ramos, 2018, P. 742). He said this because he wanted vaccination to go public and not be so restrictive. Many involved in the medical community deemed this a careless and

unprofessional belief that could put the general public at risk because, at the time, it was new technology, that required qualified procedure. Lanzarotta and Ramos (2018) explain public sentiment stating, “Smith’s efforts to ‘democratize’ the practice of vaccination tapped into public mistrust of medical authority” (Lanzarotta and Ramos, 2018, P. 742). Amongst these conflicting perspectives, the people are left with a twisted view of medicine, leading parent’s to question immunization under governmental regulation.

Because it was the government's decision to choose James Smith as the sole agent for promoting vaccinations, not only is there a question of medical advice, but a question governmental involvement on this matter. This brings us to question whether government policy really does know better. Although this event may have happened in the early 19th century, paralleled skepticism based on a “quack” physician still effects public opinion today. Robert Sears is a doctor of the 21st century and, in his book ‘The Vaccine Book: Making the Right Decision for Your Child’ he mentioned alternative vaccination schedules that delay vaccination for children. Similarly to Smith, Sears gets a lot of backlash from the medical community (Lanzarotta and Ramos, 2018, P. 741). The community criticizes Sears’ views as potentially dangerous to public health. This can take a toll on his perceived professionalism and with credibility continuing to be a driving force in medicine reliability bringing Lanzarotta and Ramos to explain that, “In both cases, concerns about vaccine safety were and are inseparable from questions of professional legitimacy” (Lanzarotta and Ramos, 2018, P. 742). This is an example of how shifting public opinion on vaccination is more than just the actual dangers of the technology, but how the people can trust the institution such as the medical community and government policy and regulation.

The article, *Public Health Law* and *Institutional Vaccine Scepticism* by Efthimios Parasidis introduces a term known as ‘Institutional Vaccine Scepticism.’ Parasidis (2016) defines the term as “a view which accepts that vaccines serve important public health goals and that, as a general matter, the benefits of vaccines outweigh the risks, but identifies concerns with vaccination

because of institutional aspects of the legal framework governing immunizations" (Parasidis, 2016, P. 1138). This article looks to explain why vaccine-hesitancy is greatly affected by public health law and government institutions. Parasidis (2016) explains that public trust has been on a decline for over six centuries (Parasidis, 2016, P. 1140). This downgrade in trust is actually directed more towards institutions like the Food and Drug Administration (FDA) and Center for Disease Control and Prevention (CDC). This mistrust stems from a belief that "government regulators and vaccine manufacturers work in collusion" (Parasidis, 2016, P. 1140). For example, Merck is a pharmaceutical company that was accused of withholding efficacy concerns with the MMR vaccine. Parasidis states that, "industry's profit motives impact consumer perception of trustworthiness" (Parasidis, 2016, P. 1140). Pharmaceutical industries can be feeding into the people's mistrust in these government regulated manufacturers. That being said, Parasidis explains solutions for public health law to direct the people from adopting this an 'anti-government/anti-establishment' rhetoric and promote immunization goals for the nation. One of the solutions was an active post-market analysis for vaccines that were approved by the FDA (Parasidis, 2016, P. 1141). This brings to light the Vaccine Adverse Event Reporting System (VAERS), a reporting system usable by anyone.

Parents, physicians, nurses, even bystanders, can all utilize this publicly accessible system known as VAERS and record an injury or reaction that might have occured from a specific vaccine. According to the CDC, VAERS, "serves as an early warning system to detect possible safety issues with U.S. vaccines by collecting information about adverse events (possible side effects or health problems) that occur after vaccination" (CDC, 2017). This strategy follows an approach that passively waits for the people and professionals to record the incidences in order to find patterns. The problem with VAERS is not so much the actual system, but its lack of validity in finding a trend. The CDC exemplifies this limitation by stating, "It is generally not possible to find out from VAERS data if a vaccine caused the adverse event" (CDC, 2017). This can deem the whole system

as obsolete and an illusion to parent's reassurement. On the one hand, VAERS can not be used as a reference for a claim on vaccine related injuries, but on the other hand, it does provide data that may draw incentive towards specific studies that can make vaccines safer.

Vaccines do carry risks, but they are tested extensively to prevent any injuries or adverse effects. Pre-market testing for vaccines can be a 10 year or more experimentation process (CDC, 2015). According to the CDC, the testing is done with hundreds of human participants in three different phases. Each phase has an increased number of participants to insure accuracy using a bigger pool of subjects. When the vaccines are deemed safe, the FDA approves it and acquires the necessary licences. Although the testing is done on hundreds to thousands of participants, in no way can this testing perfectly represent our population at the millions. On the matter, the CDC writes, "Rare side effects and delayed reactions may not be evident until the vaccine is administered to millions of people" (CDC, 2015) At the post-market level, vaccines continue to be monitored for these adverse and rare effects to insure the safety of the vaccines. This can reassure parents that the medicine going into their child's body is never leaves the FDA's radar. Improvement of public health can be a direct relation of increased spread of vaccines, bringing much needed protection for an entire population against infectious diseases and viruses. In the article titled "*Ethics and Childhood Vaccination Policy in the United States*," by Kristen S. Hendrix et al., introduces a term referred to as 'herd immunity.' Herd immunity expresses the idea that, the more amount of people that are vaccinated against diseases and viruses, the more the population can prevent a widespread of contagious infections. Hendrix (2016) says that herd immunity requires ninety six to ninety nine percent of the population to be vaccinated to acquire the maximum protection from disease (Hendrix et al., 2016, P. 274). The reason why herd immunity is practiced is because of people who have medical exemptions from vaccinations. Medical exemptions apply to those with strong allergies to vaccines, deeming them incapable of vaccination. The hope is if more and more people are vaccinated and do not contract any diseases,

then those in the community who are immunocompromised are not at risk at coming into contact with these contagions. Exemptions like these are not only limited to children, nor are they limited to just medical exemptions.

It is widely known that there are exemptions to vaccinations in the United States of America for public school enrollment, employment, or just in general as an adult. What is not known is that there are multiple types of exemptions and not all states have all types. A medical exemption is the only exemption from vaccination that is present in all 50 states by law. A medical exemption is one where the individual is given a pass on vaccination due to health reasons and in most states, the exemptions, "must be written by a medical doctor (M.D.) or doctor of osteopathy (D.O.)" (NVIC, 2018). Religious exemptions are another type of exemption and are present in 48 states (NCSL, 2017). California does not allow for religious exemption since January 1, 2016. Governor Brown signed a bill in 2015 that removed the exception for religious and philosophical reasons. This bill is upheld by the case of Boone vs Boozman in which the "District Court of Arkansas ruled that the legislature did not need to provide religious exemptions for vaccinations under the First Amendment" (Gerber, 2007, p. 496). A philosophical exemption is a, "type of exemption for individuals who hold conscientious objections to one or more vaccines," and is not covered by medical or religious exemption reasons (NVIC, 2018). As of 2017, only 18 states have a philosophical exemption in addition to medical and religious (NCSL, 2017). These exemptions play a huge role for a parent who must decide to either get an exemption or homeschool their child. In the article *Consent for Adolescent Vaccination: Issues and Current Practices* they found that parental consent of immunization for minor children and adolescents is standard policy in about 43 states, but the age of the minor does effect consent for some states. It is doubtful that all 43 states have changed their policies since the study was done, but a majority of states do need parental consent before administering a vaccination like hepatitis B. (Gordon et al.,1997, p. 262)

Parents refusing standardized care in children has been growing more frequent (Burton et al., 2018, p. 89). Standardized care for newborn screening will typically entail a hearing screening, metabolic screening, erythromycin ophthalmic ointment, hepatitis B vaccination, and a vitamin K intramuscular shot. There are several reasons for why a parent may refuse vaccination for their child, such as thinking the shots are too many at once or misinformation about the ingredients that go into the vaccines. In Parental Refusal for Treatment, they list a few reasons why parents and even medical personnel want to delay this vaccination, but they also go on to list the specifics about the benefits that correspond with getting a Hep B shot for your newborn before you leave the hospital. It is said that 90% of children acutely infected with hep B become chronically infected, of those 25% will go on to develop liver cancer and liver failure followed by death (Burton, 2018, P. 92). There are still about 100 cases annually of perinatal hepatitis B infection happening in the United State. To combat this there was an Advisory Committee on Immunization Practices by the CDC that recommended in 2017 that newborns who receive the vaccination within 24 hours of birth have a 75% to 95% effective in preventing the maternal transmission (Burton, 2018, P. 93). This is only effective for mothers who are already infected with hepatitis B and it is standard care that mothers get tested for the virus prior to birth, though this test can be falsely negative (Burton, 2018, P. 92). With the scare of the ingredients in the vaccines and the media surrounding them, it is no wonder why new moms are overprotective of what goes in their newborn's body.

Media and social networks play a big role in influencing the decisions parents make regarding the vaccination of their children. The internet has provided parents a way to share information, common experiences, and their political views on governmental policies. Parents can search the web for medical information and hearsay from other people, potentially affecting their opinions on vaccine safety. The media contains numerous platforms where those in opposition on the conversation of vaccines can post and express their opinions. Information found on the web

may not always be accurate, but may be appealing information for those who do not seem to have a critically established side.

Mainstream media plays a big role on shining light on controversial issues and topics. Public opinion is often influenced by what information is shared through media, and has a great effect on parents trying to educate themselves on vaccinating their children. Depending on the quality of information provided, media can display the positive and negative outlooks on vaccinating children. According to a study from the *National Institute of Health*, it was noted that 81.7% of parents in the U.S. reference their health care provider as a source of important information for their children (McKee et al., 2016). This implies that about nineteen percent of parents who look to be informed on vaccinations do not reach out to their doctors for said information. This can worry pediatricians and healthcare professionals on whether parents are finding reliable sources of information for childhood vaccines. It can be assumed that most people conveniently look to the web for this information.

Moreover, web-based vaccine information and social media intervention can prepare parents with information on vaccines and help them with suggestions. A study done from *Pediatrics*, concluded that between 10 to 15% of parents choose to delay or even refuse vaccinations for their children (Barrett et al., 2017). The research was conducted specifically by evaluating pregnant mothers using web-based social media interventions. During the study, around September 2013 through July 2016, 888 pregnant mothers were randomly assigned to websites that included giving them vaccine information, along with usual care information and interactive social media components. Additionally, mothers were able to access social media applications that included a blog, discussion forum, and an "Ask a question" portal that went straight to an expert. The goal of the study was to inform and encourage mothers to vaccinate their child at the recommended time using these sources (Barrett et al., 2017). The study showed that infants of the participating mothers included in the interactive social media experiment ranked significantly

lower in on time scheduled vaccinations. Media based information acts like a double edged sword. The same platform that may influence adopting a pro-vaccinating opinion, can be the same platform that can convince you otherwise.

In the past decade, media headlines showed concerns that vaccines were linked to multiple illnesses and even neurodevelopmental disorders. A headline that got an especially high amount of attention revolved around concerns with the Measles-Mumps-Rubella vaccine (MMR) and the use of thimerosal in many vaccines. Also, before the discovery of the rotavirus vaccine - and its association with intussusception (intestinal obstruction) in 1999, only 2 of 88 newspaper articles regarding immunization were against the vaccine. But following the vaccine withdrawal phase, 77% of reviewed articles were highlighting the potential effects and symptoms of the vaccine (Consultant360 et al., 2008). The media adjusted its information to appeal to what people were talking about. This further proves the power that the media has on shifting our opinions. However, during the 2003-2004 flu season, it was reported that the media helped increase influenza virus vaccine rates (Consultant360 et al., 2008). Most of the media articles and messages emphasized that the flu season was coming early, that it was severe, and that it was associated with causing pediatric deaths. Sixty percent of parents reported that they vaccinated their children after their physician recommended to do so, and more than 25% did so being exposed to media coverage or recommendation of a friend (Consultant360 et al., 2008). This displays that a quarter of parents were influenced by mainstream media to insure vaccinating their families and themselves. The media can be informative, but it can also dramatize certain situations.

Stories in popular media and major social media outlets about vaccines are incentivized by ratings. Stories about vaccines often direct their attention on rare incidences of children having negative side effects after getting vaccinated. Shining a light on this possibility can instill fear in parents who read about components of vaccines (such as thimerosal) that are toxic and maybe not the safest for children (McKee et al., 2016). In addition to receiving information about the risky

ingredients in the vaccines, they may also be exposed to the idea that multiple vaccinations at once can compromise their immune system. According to the *National Institute of Health*, some parents believe in natural immunity and that avoiding vaccines will make their immune system stronger through adulthood. We may be able to look at a study conducted in Seattle to further display the media's impact on decision-making on immunization.

There was a study held in King County, Seattle that displays how social media influences decisions on childhood vaccination. It is stated, "With so much confusing and even misleading information about vaccine safety available on the Internet, it's no surprise that parents are influenced by their friends' attitudes when it comes to immunizing their kids" (Rochman et al., 2013). This is important because of how parents can be influenced by opinions surrounding them and can mislead them from important facts and details. In the study, 196 parents of children 18 months or under were surveyed, 126 parents followed the CDC recommended childhood vaccination schedule. seventy other parents went through alternative routes, 28 delayed vaccines, 37 partially vaccinated and five did not vaccinate at all. Among the parent surveyed, almost 95% of them associated their vaccination decision with their "people network" and what opinions and facts they found online. According to a study by *Infectious Disease Advisor*, social media can act like an "echo chamber" for certain topics and arguments. A "social media echo chamber" is when a user hears or sees information that reflects their own beliefs on social media (Infectious Disease Advisor et at., 2018). This shows that social media headlines use certain words or phrases that may appeal to a certain sides beliefs, instead of revealing unbiased information on the controversial topic. In a 2017 study, it analyzed the interaction of 2.6 million Facebook users over 5 months and it found that vaccination content was dominated by the echo chamber effect (Infectious Disease Advisor et at. 2018). The users tended to select information connecting to their beliefs and other information was ignored or not displayed, easily establishing two sides to any argument whether than a middle ground. Another study on Twitter found that users who were exposed to information

being negative towards the Human Papillomavirus vaccine (HPV) were more likely to tweet negative opinions than users who were more often exposed to neutral or positive information (Infectious Disease Advisor et al., 2018). Strongly opposing pieces of information can easily sway people into polarizing positions, despite a either side's credibility.

Reasonable conversations on social media regarding vaccinations can be oppressed because of the echo chamber effect. Points of views of many people on these social media accounts can assert polarized opinions simply with hearsay based beliefs and ignored scientific facts and statistics. When parents consult their "people networks" for opinions and information, they are solely fed certain ways of thinking instead of personal research on the subject, which can result in a lack of expansion on their understanding of. With a plethora of sources to choose from, parents can be left with mixed feelings and inconclusive opinions. Conflicting pieces of information are necessary to further your understanding of the risks and benefit of vaccines and assists in establishing a position as you become more knowledgeable on the matter.

Knowledge "is the fact or condition of knowing something with familiarity gained through experience or association" (Merriam-Webster's collegiate dictionary, 1828). Parents look through a variety of sources to find information that makes them more knowledgeable on the matter of vaccinating their children in the safest and most effective way. Because knowledge is obtainable, each parent may have a different understanding of vaccination. It looks like healthcare "providers thought resistance was based on parents' lack of understanding of the vaccine's importance for their child"(Fredrickson et al., 2004). Parents understanding and opinions of vaccines may be paralleled to whether they are college educated or not. Parents who are educated are more likely to learn about health and health related risks, because of their improved literacy and comprehension of a complex controversial issue like vaccination. Programs on *Health Literacy and Center for Health Services Research* came up with the result that "Parents with low literacy had less health knowledge and had behaviors that were less advantageous for their children's

health compared with parents with higher literacy"(DeWalt et at., 2009). This information provides us with a hint on how education can impact a person's health.

Statistically speaking, this may be a misconception. Most of the parents who are vaccine hesitant come from more educated background with a college degree. According to the *Public Health Reports*, families that delay or refuse vaccination are more likely to be educated with a college degree. Moreover, in the *Journal Of Health Communication* author Gust and colleagues, "in 2008 surveyed largely family practitioners and a smaller number of pediatricians and found 11% do not recommend to parents that children receive all available vaccines" (Gust et al., 2012). The safety of vaccines and the idea that we may not need them contribute to the ordeal that is vaccine-hesitancy. We can look at the history of the polio virus as a way to explain why parents might feel that the vaccine may be obsolete in today's populations. In the 1950s, the well known poliovirus had 15,000 cases of paralysis in the United States. This influenced the creation of the the inactivated poliovirus vaccine (IPV) in 1955 and oral poliovirus vaccine (OPV). In 1963 the number of polio cases fell rapidly to less than a hundred and fewer than ten in the 1970s. By 1979 Polio had been eradicated in the United States. This means that it's been 39 years since the last transmission of the poliovirus in the this country. Therefore most parents may never have heard of anyone contracting this virus in their lifetime. Bringing many parents and some physicians to believe that it's no longer necessary to vaccinate against this virus. Although there have not been any recorded cases in the United States for many years, the poliovirus has not been eradicated globally. Most of the developing countries still carry infectious diseases that can weed through to the United States. Because we do not know if contagions have entered the United States due to visitations or immigration, communicating this possibility is important for public health.

An important component that can affect public health and awareness is the level of communication between parents and their physician, nurses, or other health care providers. The relationship between doctors and their patients can become distant because of a patients

socioeconomic status as well as a potential language barrier. Health care providers should help, "parents who were concerned about one or all vaccines," and also the needs of parents who, "wanted their physicians to listen non judgmentally to their concerns and wanted their physicians to give them tailored information regarding each shot in question" (Fredrickson et al., 2004). Physicians, pharmacists, nurses, and other health care providers should present well detailed and unbiased information to their patients. This includes information on the risks and the benefits to help parents make a well informed decision on their next course of action for immunization. Interpreters should be utilized to help parents and doctors express this information in the most accurate way possible. Ultimately, the information is out there and our society expects our parents to figure out how to comprehend difficult and complex information regarding vaccines to make a decision on if and how they plan on vaccinating their children.

In most instances, doctors may not have ample time to fully educate and explain immunization to parents vaccinating their children. According to *The Statista Portal*, the amount of time U.S primary care physicians spend with each patient as of 2018 is considerably low. For example, there's only 11% of the patient who spends 25 minutes or more with their physicians and 24% of patients that spend 17-24 minutes with their physicians. The rest of 65% have less than 9-16 minutes (The Statista Portal, 2018). A way to avoid this issue may be to inform health officials to allot a substantial amount of time for education when making an appointment for further vaccination. Most hospitals are overbooked and do not plan time for informative sessions with the parents in their schedules. Hospitals and parents could benefit from implementing informed consent in every single appointment associated with vaccination. Effective communication from healthcare providers can prevent misinformation that may affect a parent's decision on immunization.

Perceived scientific study can be enough to influence parents to adopt a vaccine-hesitant tendency. Andrew Jeremy Wakefield is a former British doctor known for his research that

attempted to debunk vaccine efficacy. It is said that his studies altered numerous facts about patients medical history to support his claim. In his research, Wakefield used twelve children with irritable bowel syndrome (IBS) and autism and made his patient undergo clinical investigation. He took the history of each of his patients and their immunization record and performed ileocolonoscopy (the examination of the rectum, colon, and terminal ileum) on his patients. Wakefield and his colleagues concluded that children who were immunized with MMR vaccine may have also been diagnosed with autism and IBS. Wakefield and his colleagues stated "We have identified a chronic enterocolitis in children that may be related to neuropsychiatric dysfunction" (Wakefield et al., 1998). Individuals who suffer from chronic enterocolitis experience small intestine inflammation, leading to fever, nausea, vomiting, and diarrhea. Based on this study, patients with chronic enterocolitis were also diagnosed with developmental disorders. Wakefield explained that most children who were diagnosed with a bowel dysfunction were given the MMR vaccine and concluded that neuropsychiatric syndromes, like autism, may be a result of the vaccination. As soon as Andrew Wakefield's research was published on *The Lancet* in England and reached the United States, parents' hesitancy on vaccines grew. This shift in vaccine hesitancy may have resulted in recent measles outbreaks in California, Illinois, New York, and Wisconsin. Fortunately, the award-winning journalist Brian Deer interviewed parents of 12 patients from Wakefield's original study, also reported in the 1998 *Lancet*. In the journal, Deer discovered that it "was free of misrepresentation or undisclosed alteration and that in no single case could the medical records be fully reconciled with the descriptions, diagnoses, or histories published in the journal"(Godlee, et al., 2018). Wakefields results, illustrate a proper example of what may be deemed public health misinformation. While we are inclined to consider the ways in which misinformation can affect vaccination habits, we must also consider the alternative viewpoints parents have based on their religious and cultural practices.

We look to explain the viewpoints of those who deal with an issue like vaccination while also adhering to their own cultures and religious beliefs. For parents who have a responsibility to their traditions and practices, mandatory vaccination can pose an ethical challenge. Certain faith and belief systems bring about alternate perspectives toward vaccination. Religious objections to vaccines are established mostly on the ethical dilemmas associated with utilizing human tissue cells to make vaccines. This conflicts with the belief that the body is sacred and should not have certain chemicals, toxins, or living foreign tissues in the body (Grabenstein, 2013). The Catholic church does recognize the value of vaccines and the importance of protecting private and community health. However, the Catholic church does encourage that its members seek alternative options if vaccines are prepared using cell lines derived from aborted fetuses (Henz, Donald). *The Moral Reflection on Vaccines* published by the Pontifical Academy for Life suggest that these vaccines should be avoided and proposes a search for alternatives. Examples of said vaccines made with these cell lines are the WI-38 (Winstar Institute 38) and the MRC-5 (Medical Research council 5). In addition, several live vaccines against rubella (Meruvax, Rudivax, M-R-VAX) can also fall under the same category. The ingredients in these vaccines affects various populations differently.

Of these factors that may affect the level of vaccine related risks are age, race, sex, and socioeconomic status. According to an article by Nature Reviews Immunology in 2016 “sex differences in immune response result in different susceptibility of males and females to autoimmune diseases, malignancies and infectious diseases as well as affecting the outcome of vaccination. Female exhibit elevated humoral and cell-mediated immune responses to antigenic stimulation, vaccination, and infection than males”. This difference in reactions based on gender, is reason enough to highlight discriminatory factors that may result from mandatory vaccination. Because there are risk factors that depend on each individual patient’s background, some parents may find it favorable to have a choice.

In highlighting reasons behind vaccine hesitancy, we are able to better understand the trouble parents face when they are provided with conflicting information. The politics surrounding medical institutions gives us a blurred line between public health and capitalistic opportunities. We witness that most parents who question vaccines, are those of higher education, including our very own Pediatricians which may skew our image of the medical community. The practice of herd immunity can indirectly establish an ethical duty for parents, triggering an inner conflict between not feeling right about vaccination and fulfilling moral obligation. We witness the statistics on how little time most parents have when seeking information from their medical provider. The media's various platforms continue to sway many parents into following a headline over factual evidence on both sides of the spectrum. The debunking of Andrew Wakefield's study provides an instance in which alleged scientific facts can influence many into questioning vaccines. Providing the history of exemptions can give us an understanding of why laws are in place regarding immunization and the difference between federal and state legislation on the matter. Religions consist of an array of faiths and beliefs in this country, and immunization can go against the practice of some of these religions/cultures. All of these factors contribute to reasons why we question vaccines and at the same time support them. Vaccination practices in this country have become an institutional commodity. We should reflect on all these aspects of childhood immunization to become better informed parents and on a wider scale, to become a community that critically examines our medical decisions without silencing or marginalizing each other's voices.

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